Common Mode EMI Filters – M2022

- Provide excellent noise attenuation
- Compact, 1812 size surface mount package.
- Available as the standard filter, a low profile (-ALPL) and a shielded (-ASL) version
- Excellent isolation, environmental stability and low cost.

Core material  Ferrite
Terminations  RoHS compliant gold over nickel over moly-manganese
Weight:  M2022-AL 155 mg; M2022-ALPL 85.5 mg; M2022-ASL 319 mg
Ambient temperature  −40°C to +85°C
Storage temperature  Component: −40°C to +85°C.
Tape and reel packaging: −40°C to +80°C
Resistance to soldering heat  Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles
Moisture Sensitivity Level (MSL)  1 (unlimited floor life at <30°C / 85% relative humidity)
Failures in Time (FIT) / Mean Time Between Failures (MTBF)  38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332
PCB washing  Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

<table>
<thead>
<tr>
<th>Part number</th>
<th>Common mode peak impedance (kΩms)</th>
<th>Cutoff frequency² (MHz)</th>
<th>Inductance³ (µH)</th>
<th>DCR max⁴ (mΩms)</th>
<th>Isolation⁵ (Vrms)</th>
<th>Current max (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M2022-AL</td>
<td>38.3 @ 120 MHz</td>
<td>170</td>
<td>4.2 ±10%</td>
<td>800</td>
<td>50</td>
<td>500</td>
</tr>
<tr>
<td>M2022-ALPL_</td>
<td>40.0 @ 160 MHz</td>
<td>120</td>
<td>4.0 ±10%</td>
<td>990</td>
<td>50</td>
<td>500</td>
</tr>
<tr>
<td>M2022-ASL_</td>
<td>32.0 @ 66 MHz</td>
<td>140</td>
<td>11.5 min</td>
<td>850</td>
<td>50</td>
<td>500</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging codes:
   - M2022-ALPL_

   Packaging:
   - C = 7” machine-ready reel. EIA-481 embossed plastic tape (600 parts per full reel).
   - B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added ($25 charge), use code letter C instead.
   - D = 13” machine-ready reel. EIA-481 embossed plastic tape (2200 parts per full reel).

2. Frequency at which the differential mode attenuation equals −3 dB
3. Inductance is per winding, measured at 10 MHz.
4. DCR is specified per winding.
5. Winding to winding isolation (hipot) tested for one minute.
6. Electrical specifications at 25°C.

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Typical Attenuation*

*Ref: 50 Ohms.

Typical Impedance vs Frequency

Packaging 600 per 7” reel; 2200 per 13” reel
Plastic tape: 12 mm wide, 8 mm pocket spacing
M2022-AL: 0.3 mm thick, 3.7 mm pocket depth
M2022-ALP: 0.3 mm thick, 2.25 mm pocket depth
M2022-AS: 0.25 mm thick, 3.94 mm pocket depth

Recommended Land Pattern